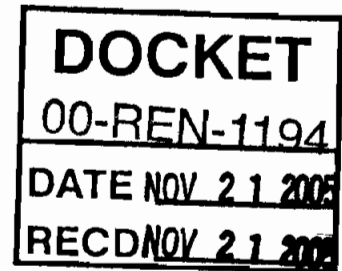


**The State of California**  
**California Energy Commission**



**Comments on the Draft 2006 Renewable Energy  
Investment Plan**

**Docket No. 00-REN-1194**

**Workshop Held on November 14, 2005**

Submitted by:

Michael L.S. Bergey  
Chair, AWEA Small Wind Turbine Committee  
President, Bergey Windpower Co.  
2001 Priestley Ave.  
Norman, OK 73072

November 21, 2005

Honorable Commissioners and CEC Renewable Energy Program Staff:

Thank you for providing this opportunity to offer input on the draft 2006 Renewable Energy Investment Plan.

AWEA and the small wind turbine manufacturers and retailers are appreciative of the market stimulation provided by the rebate program. Small wind technology has faced significant permitting barriers in California and, as a result, has not enjoyed the explosive sales growth seen for solar under the rebate program. Nevertheless, some progress has been made. The permitting environment is improving and some market "hot-spots", such as the Hesperia area in San Bernardino Co., have emerged. Overall, however, small wind turbine sales in California are decreasing, not increasing, and we attribute this unfortunate trend primarily to the significant cuts in the CEC rebates over the past few years.

We prepared PowerPoint slides to go along with the testimony we presented at the Workshop on November 14<sup>th</sup> and these slides are appended. The presentation on the 14<sup>th</sup> was made by Pete Price. Our comments are limited to the Emerging Renewables

Program, which statutorily includes small wind up to 50 kW as well as PV and fuel cells.

## Comments

The plan has some good points. It significantly increases funding for Emerging Renewables and for consumer information and market support. The plan specifically notes that non-PV emerging technologies “provide value in diversifying CA’s electricity generation technologies and fuel sources, and proposes continued consumer information and market support for these technologies.

Unfortunately, the draft plan also seems to recommend that all the funds for emerging renewables be used to support the Million Solar Roofs Initiative, with no funds available for the other emerging renewable technologies like small wind. If so, this is at odds with the program as described in statute. Since the Emerging Renewables chapter speaks only to PV, it obviously doesn’t do something we have urged before – to examine whether the market conditions have been in place to adjust rebate levels for small wind as they have been adjusted.

Bergey Windpower strongly supports solar photovoltaic technologies. We support their expansion. We support the Million Solar Roofs Initiative. We share the Governor’s enthusiasm for the opportunities to expand PV as a renewable technology. But solar is not a magic bullet, and while we haven’t heard the Commission say that, the draft plan appears to take that approach.

The fact is that after 6 years and about \$180 million in CEC rebates, installed prices for solar, according to the Commission, are not down appreciably.

And according to industry data the retail price for solar modules is trending up.

There is no doubt that solar is widely applicable, more so than wind. But it is also undeniable that where a landowner has enough space and enough wind, a small wind system will cost 40-50% less than PV – not only in installed cost but per kWh. So while there is good reason to be excited about the Solar Initiative, there is also good reason to continue your policy of supporting a diverse set of promising emerging technologies.

The stated goal of the Emerging Renewable Program is to “accelerate cost reduction and market acceptance through high volume production of emerging renewable technologies.” The key is to achieve production volumes through strategic use of the rebate levels to allow for cost reductions. That’s why, for example, in 2001 the CEC strategically decided to increase the rebate cap for PV from \$3.00/W to \$4.50/W – because at lower levels the market wasn’t driving cost reductions.

In 2003, by contrast, the commission cut small wind rebates by the same amount as PV on a dollar basis, and more on a proportional basis, even though wind was not over-subscribed and small wind sales had not exploded as they had for PV. The Commission also established a Performance-Based Initiative for PV only, when the concept was equally applicable to small wind.

In short, the CEC has treated two polar opposite problems – over-subscription and under-subscription – with the same medicine: rebate reductions. In fact on a proportional basis, small wind got a double dose of the medicine it never should have received in the first place, and sure enough sales in CA have gone down, not up.

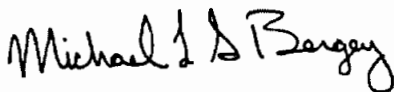
CA is extremely important to the US's small wind industry. It is the largest domestic market, accounting for ~ 35% of on-grid sales. And it has great potential: 24% of CA land has sufficient wind resources for small wind, with a potential of ~ 400 MW. Small wind shaves peak because wind resources in the best market areas coincide with peak residential demand periods. And in particular with the large amounts of money proposed for the Emerging Program, California can nurture a diverse distributed renewables market with only a small continuing investment in small wind.

We strongly believe that where it is applicable small wind is very cost-effective and Californians will choose small wind, but we need to begin to use the Emerging Renewables Program as it was intended to send the right signals to consumers.

**We understand the Commission is planning a revision to the Renewables Guidebook in early 2006. We would like to work with you and other small wind turbine manufacturers to revise the program to make it effective for small wind.**

In closing, I want to thank the CEC for the assistance that the Emerging Renewables Program has provided the small wind turbine industry over the last six years. As an industry, we sincerely hope that the Commission will respond positively to our request for a review of the small wind rebate so that we can reverse the downward trajectory in the marketplace and fulfill the intent of SB 1194 for our emerging technology.

Respectfully submitted,



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Michael L.S. Bergey  
AWEA Small Wind Turbine Committee  
Bergey Windpower Co.

# **If Diversity is Good for California's Energy Portfolio, Isn't it Also Good for Emerging Renewables?**

## **Comments on the Draft 2006 *Investment Plan***

CEC Dockets 00-REN-1194

**Mike Bergey**  
Bergey Windpower Co.

November 14, 2005



## **The Draft Plan has Good Points ...**

- ❖ Significantly increasing the Emerging Renewables funding
- ❖ Significantly increasing funding for education and market support
- ❖ Requested flexibility to respond to market changes



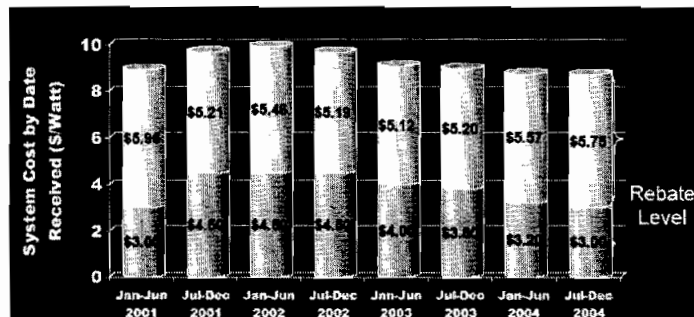
## **... And Not So Good Points**

- ❖ **For Emerging Renewables, places the Governor's Million Solar Roofs program goals above the Legislature's goals per SB 1194**
- ❖ **Fails to evaluate the progress made by small wind in recent years and the linkages to CEC policy on rebate levels**



## **Solar is Not a Magic Bullet**

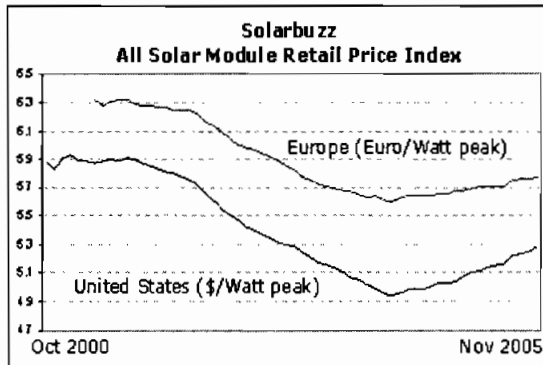
**After 6 Years and \$180 M in CEC Rebates, Solar Prices are Down Only a Few Percent**



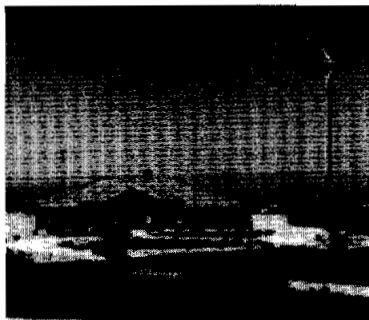
## Solar is Not a Magic Bullet



### Module Prices are Rising



## Solar is Not a Magic Bullet



### It Can Be Much More Expensive

1,500 kWh/Month in San Bernardino Co., (before subsidies):

Wind: \$46,000

Solar: \$82,000



## The Policy Says ....



### Emerging Renewables Program

*Goal is to accelerate cost reduction and market acceptance through high volume production of emerging renewable technologies*

- Provides rebates for purchasing & installing distributed generation renewable energy systems
- Reduces the up-front costs for customers
- Eligible technologies: solar photovoltaic and thermal electric, small wind, fuel cells

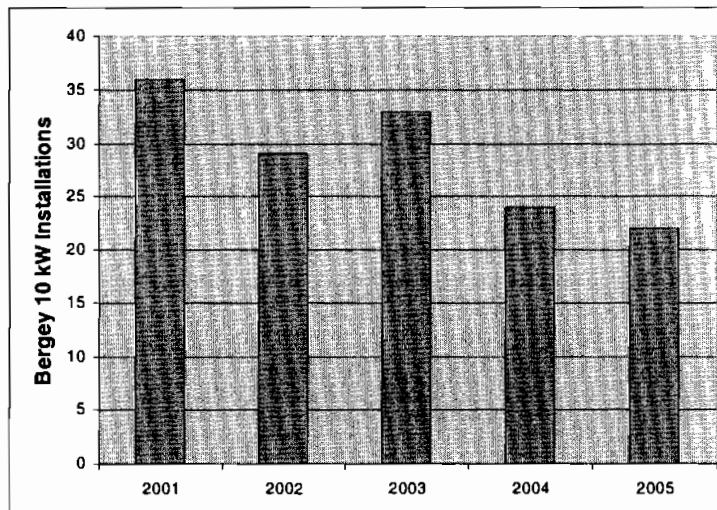


## But the CEC has Discriminated Against Small Wind

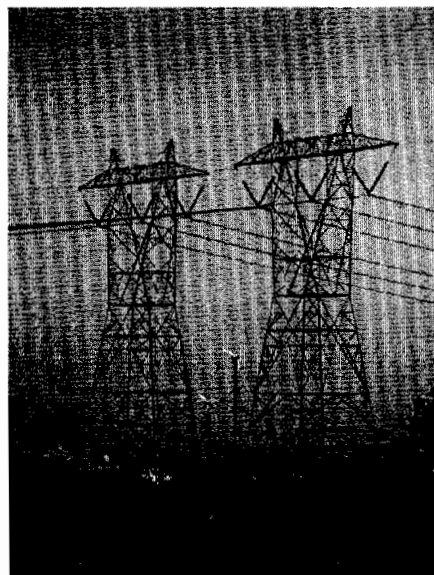
- ❖ In 2003 it cut small wind rebates more than it did for PV, even though small wind was not part of the over-subscription problem and small wind sales had not “exploded”
- ❖ Small wind rebates have further declined at double the rate of PV
- ❖ Current rebate is ~ 25% on a 10 kW system
- ❖ Performance-Based Incentive program only covers PV



## Resulting in Lower Sales:



**If Diversity is  
Good for  
California's  
Energy Portfolio,  
Isn't it Also  
Good for  
Emerging  
Renewables?**





## **Californians Will Choose Small Wind if the CEC Quits Sending the Wrong Signals**

